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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,067

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EXAMINER

KANE, CORDELIA P

ART UNIT

PAPER NUMBER

2432

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/823,067	Applicant(s) SILVESTER ET AL.	
	Examiner CORDELIA KANE	Art Unit 2432	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 14-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 10, 12 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Election/Restrictions

2. Claims 14 – 19, 28 and 29 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species 2, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 3, 2009.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 2, 4, 6 – 8, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza's US Patent 6,076,167, and further in view of Gennaro et al's US Patent 6,317,834 B1.
5. Referring to claim 1, Borza teaches:
 - a. At least a first input mechanism to receive first multi-factor authentication data associated with Z authentication factors of Z different types (column 11, lines 44-48).

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- b. A cryptographic engine to encrypt the first multi-factor authentication data (column 7, lines 55-57).
 - c. A separated user authentication non-volatile data store to store the encrypted first multi-factor authentication data (column 8, lines 23-25, Figure 3, Element 58).
 - d. A first processing unit to determine whether second multi-factor authentication data received via that at least first input mechanism matches a subset of the first multi-factor authentication data (column 15, lines 5-6), the second multi-factor authentication data associated with N authentication factors of N different types where N is less than Z and greater than 1 (column 12, line 64-column 13, line 47).
 - e. The first processing unit to authenticate using the second multi-factor authentication data comprising the subset of the stored first multi-factor authentication data (column 7, line 66-column 8, line 4) where less than Z authentication factors are available for authentication (column 13, line 2-16).
 - f. A user being authenticated if the second authentication data matches the subset of the first authentication data (column 7, line 66-column 8, line 4).
6. Borza does not explicitly disclose the separated user authentication, non-volatile data store accessible only in conjunction with multi-factor user authentication activities. However, Gennaro discloses that the templates are only accessible when the user starts the verification process and provides a password, since the password is required to access the biometric template (column 7, lines 8-32). Borza and Gennaro are

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analogous art because they are from the same field of endeavor, biometrics. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Borza and Gennaro before him or her, to modify the templates of Borza to include the password created key of Gennaro. The suggestion/motivation for doing so would have been to store biometric information in a secure manner so as to prevent occurrence of theft and attacks from unauthorized personnel (column 1, lines 53-55).

7. Referring to claim 2, Borza teaches that one of the inputs is a biometric sample (column 13, lines 42-44).

8. Referring to claim 4, Borza teaches that the processor is a digital signal processor (column 3, lines 1-4).

9. Referring to claim 5, Borza teaches implementing a security technology to provide for protected execution (column 8, lines 23-25).

10. Referring to claim 6, Borza teaches that there is a second processor separate from the first processor (Figure 3, Element 54).

11. Referring to claim 7, Borza teaches:

g. A first processor to execute instructions, a first non-volatile memory, a bus coupled to the processor and first non-volatile memory (Figure 3).

h. Receiving first multi-factor user authentication data of Z different types (column 11, lines 44-48).

i. A second separated non-volatile memory to store an encrypted version of the first multi-factor user authentication data (column 8, lines 23-25, Figure 3, Element 58).

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- j. A second user authentication processor to determine whether second multi-factor user authentication data matches at least a corresponding subset of the first multi-factor user authentication data (column 15, lines 5-6), the second multi-factor user authentication data including authentication data of N different types where N is less than Z and greater than 1 (column 12, line 64-column 13, line 47).
- k. The second user authentication processor to authenticate using the second multi-factor user authentication data corresponding to the subset of the first multi-factor user authentication data (column 7, line 66-column 8, line 4) where less than Z authentication factors are available for authentication (column 13, line 2-16), a user being authenticated if the second authentication data matches the subset of the first authentication data (column 7, line 66-column 8, line 4).
12. Borza does not explicitly disclose the separated user authentication, non-volatile data store accessible only in conjunction with multi-factor user authentication activities. However, Gennaro discloses that the templates are only accessible when the user starts the verification process and provides a password, since the password is required to access the biometric template (column 7, lines 8-32). Borza and Gennaro are analogous art because they are from the same field of endeavor, biometrics. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Borza and Gennaro before him or her, to modify the templates of Borza to include the password created key of Gennaro. The suggestion/motivation for doing so

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would have been to store biometric information in a secure manner so as to prevent occurrence of theft and attacks from unauthorized personnel (column 1, lines 53-55).

13. Referring to claim 8, Borza teaches a cryptographic engine to encrypt the first user authentication data prior to storage (column 7, lines 55-57).

14. Referring to claim 10, Borza teaches that one of the inputs is a biometric sample (column 13, lines 43-44).

15. Referring to claims 12 and 13, Borza teaches that the second non-volatile memory is physically separated, as well as logically separated, from the first non-volatile memory (Figure 3).

16. Claims 3, and 9 are rejected under 35 USC 103 (a) as being obvious over Borza in view of Gennaro and further in view of Harris. Borza in view of Gennaro discloses all the limitations of the parent claim. Borza in view of Gennaro does not appear to explicitly disclose using the Trusted Platform Module. However, Harris discloses using a Trusted Platform Module, and including the cryptographic engine (column 9, line 66 – column 10, line 4). Borza in view of Gennaro and Harris are analogous art because they are from the same field of endeavor, networks. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Borza in view of Gennaro and Harris before him or her, to modify Borza in view of Gennaro to include the Trusted Platform Module of Harris. The motivation for doing so would have been that it provides a more secure and trusted computing platform (column 10, lines 10-11).

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORDELIA KANE whose telephone number is (571)272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. K./
Examiner, Art Unit 2432

/Benjamin E Lanier/
Primary Examiner, Art Unit 2432